

Please type a plus sign (+) inside this box → ☐

Approved for use through 10/31/2002. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	YOR920030527US1 (8728-665)
First Inventor	Evan G. Colgan
Title	Apparatus and Methods for Cooling .....
Express Mail Label No.	EV413370969US1

**APPLICATION ELEMENTS**

See MPEP chapter 600 concerning utility patent application contents.

**ADDRESS TO:** Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.  
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 60]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 10]
5. Oath or Declaration [Total Pages 2]
  - a. ☒ Newly executed (original or copy)
  - b. ☐ Copy from a prior application (37 CFR 1.63 (d))  
(for continuation/divisional with Box 18 completed)
    - i. ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s)  
named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76

7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - a. ☐ Computer Readable Form (CRF)
  - b. Specification Sequence Listing on:
    - i. ☐ CD-ROM or CD-R (2 copies); or
    - ii. ☐ paper
  - c. ☐ Statements verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

9. ☒ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement (when there is an assignee) ☒ Power of Attorney
11. ☐ English Translation Document (if applicable)
12. ☒ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. ☐ Request and Certification under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent. PTO/SB/17
17. ☐ Other: .....

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP)

of prior application No.: .....

Prior application information:

Examiner: .....

Group Art Unit: .....

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

**19. CORRESPONDENCE ADDRESS**☐ Customer Number or Bar Code Label

(Insert Customer No. or Attach bar code label here)

or ☒ Correspondence address below

Name	Frank Chau				
Address	F. CHAU & ASSOCIATES, LLP 1900 Hempstead Turnpike, Suite 501				
City	East Meadow	State	New York	Zip Code	11554
Country	U.S.A.	Telephone	(516) 357-0091	Fax	(516) 357-0092

Name (Print/Type)	Frank V. DeRosa	Registration No. (Attorney/Agent)	43,584	
Signature			Date	2/27/04

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# FEE TRANSMITTAL

## for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 1,342.00

### Complete if Known

Application Number  
Filing Date  
First Named Inventor Evan G. Colgan  
Examiner Name  
Art Unit  
Attorney Docket No. YOR920030527US1 (8728-665)

### METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number 50-0510/IBM  
Deposit Account Name IBM (Yorktown Heights)

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☐ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

### FEE CALCULATION

#### 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	770.00
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$ 770.00

#### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
40	-20** = 20	18	360
Independent Claims	5	-3** = 2	86
Multiple Dependent		290	

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 532.00

\*\*or number previously paid, if greater; For Reissues, see above

### FEE CALCULATION (continued)

#### 3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	40.00
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 40.00

### SUBMITTED BY

Name (Print/Type) Frank V. DeRosa Registration No. (Attorney/Agent) 43,584 Telephone 516-357-0091  
Signature Date February 27, 2004

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.  
SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**PATENT**

Atty. Docket No. YOR920030527US1 (8728-665)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPLICATION FEE TRANSMITTAL**

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): Evan George COLGAN; Jeffrey D. GELORME; Kamal K. SIKKA; Hilton T. TOY; and Jeffrey Allen ZITZ

For: APPARATUS AND METHODS FOR COOLING SEMICONDUCTOR INTEGRATED CIRCUIT PACKAGE STRUCTURES

**This application is a:**

☒ New Application

☐ Continuation

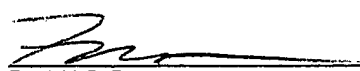
☐ Continuation-In-Part (CIP)

☐ Divisional

of co-pending U.S. application Serial No. \_\_\_\_\_  
filed on \_\_\_\_\_.

**CERTIFICATION UNDER 37 C.F.R. § 1.10**

I hereby certify that this Application transmittal and the documents referred to as enclosed are being deposited with the United States Postal Service on this date February 27, 2004 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EV413370969US addressed to: Commissioner for Patents, Alexandria, VA 22313.

  
Frank V. DeRosa

**Enclosed are:**

[X] 47 page(s) of specification

[X] 1 page(s) of Abstract

[X] 12 page(s) of claims

[X] 10 sheets of drawings [ ] formal [X] informal

[X] 2 page(s) of Declaration and Power of Attorney

[X] An Assignment of the invention to: International Business Machines Corporation

[ ] This application claims the benefit under 35 U.S.C.  
§ 119(e) of U.S. Provisional Application(s) No(s).:

APPLICATION NO(S).:

FILING DATE

\_\_\_\_\_

\_\_\_\_\_

[ ] Priority under Title 35 United States Code, § 119 is claimed from:

Country

Appln. No.

Filed

\_\_\_\_\_

[ ] Certified copy of which:

[ ] is enclosed

[ ] will follow.

**Additional papers enclosed:**

[ ] Preliminary Amendment

The fees to be charged are to be based on the number of claims  
remaining as a result of the attached Preliminary Amendment.

[X] Information Disclosure Statement

[X] Form PTO-1449

[ ] Other

**Fee Calculation (37 C.F.R. §1.16)**

**CALCULATION OF UTILITY APPLICATION FEE**

For	Number Filed	Number Extra	Rate	Basic Fee \$770.00
TOTAL CLAIMS	40	20	x 18 =	\$360.00
INDEPENDENT CLAIMS	5	2	x 86 =	\$172.00
<input type="checkbox"/> Multiple Dep. Claim			290	\$0
			<b>TOTAL \$1,302.00</b>	

☐ Applicant Claims Small Entity Status Under 37 C.F.R. § 1.27. Reduced fees under 37 C.F.R. § 1.9(f) (50% of total) paid herewith \$ .00.

☒ The amounts of \$ 1,302.00 (filing fee) and \$40.00 (Assignment recordation fee) are authorized to be charged to Deposit Account No. 50-0510/IBM (Yorktown Heights)

☐ A check in the amount of \$ .00 is enclosed for recording the attached Assignment.

☐ A check in the amount of \$ .00 to cover the filing fee is attached.

☐ Charge fee to Deposit Account No. 50-0510/IBM (Yorktown Heights).  
TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

\* Includes all independent and single dependent claims and all claims referred to in multiple claims. See 37 C.F.R. § 1.75(c).


[X] Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. § 1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 50-0510/IBM (Yorktown Heights). Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-0510/IBM (Yorktown Heights) therefor. TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

**Relate Back - 35 U.S.C. § 120**

[ ] Amend the specification by inserting after the Title the sentence:

--This is a [ ] continuation [ ] continuation-in-part [ ] divisional of copending application Serial No. \_\_\_\_\_ filed on \_\_\_\_\_, the disclosure of which in its entirety is incorporated-by-reference herein.--

Date: February 27, 2004

  
\_\_\_\_\_  
SIGNATURE OF ATTORNEY  
Frank V. DeRosa  
Reg. No. 43,584

F. CHAU & ASSOCIATES, LLC  
1900 Hempstead Turnpike, Suite 501  
East Meadow, New York 11554  
Tel. No. (516) 357-0091  
Fax. (516) 357-0092